



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,910	02/08/2002	Ian D. Stedman	010429	2273

26285 7590 05/20/2004
KIRKPATRICK & LOCKHART LLP
535 SMITHFIELD STREET
PITTSBURGH, PA 15222

EXAMINER
COLON SANTANA, EDUARDO

ART UNIT PAPER NUMBER

2837

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/071,910	STEDMAN, IAN D.	
	Examiner	Art Unit	
	Eduardo Colon-Santana	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) See Continuation Sheet are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims subject to restriction and/or election requirement are 1-5,9,10,12,14,18,19,21-43,45-55,64-82 and 84-101.

Art Unit: 2837

DETAILED ACTION

1. Applicant's amendments filed on 3/01/2004 have been received.
2. Upon further consideration, a new ground(s) of restriction/election has been applied. See MPEP 803 and 37 CFR § 1.142.

Election/Restrictions

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-5, 9, 10, 12, 14, 18, 19, 21-43, 52-54, 64-74 and 99-101, drawn to a rotor phase shift, classified in class 318, subclass 735.

II. Claims 45-51 and 55, drawn to a stator phase shift, classified in class 318, subclass 778, 797.

III. Claims 75-78, 84 and 85, drawn to a control system and method for controlling a rotor and determining a flux vector, classified in class 318, subclass 779.

IV. Claims 79-82, drawn to a method for controlling torque ripple, classified in class 318, subclass 432.

V. Claims 86 and 87, drawn to a method of transferring signals to a rotor, classified in class 318, subclass 605.

VI. Claims 88-98, drawn to a method of controlling a rotating magnetic flux vector, classified in class 318, subclass 802.

Art Unit: 2837

The inventions are distinct, each from the other because of the following reasons:

Inventions I-V and VI are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case,

Invention I has separate utility such as having a motor with a rotor phase shift not using the specific stator phase shift of II or the specific methods of control of III-VI.

Invention II has separate utility such as having a motor with a stator phase shift not using the specific rotor phase shift of I or the specific methods of control of III-VI.

Invention III has separate utility such as a control system and method of controlling a rotor and determining a flux vector not using the specific rotor phase shift of I or the specific stator phase shift of II or the specific methods of IV and V, or the specific method of controlling a rotating magnetic flux vector of VI.

Invention IV has separate utility such as a method for controlling a torque ripple not using the specific motor of I or the specific motor of II or the specific methods of III, V and VI.

Invention V has separate utility such as a method of transferring signals to a rotor not using the specific motor of I

Art Unit: 2837

or the specific motor of II or the specific methods of III, IV and VI.

Invention VI has separate utility such as a method of controlling a rotating magnetic flux vector not using the specific motor of I or the specific motor of II or the methods of IV and V, or the specific method for determining a flux vector in III. See MPEP § 806.05(d).

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purpose as indicated is proper.

4. This application contains claims directed to the following patentably distinct species of the claimed invention:

Embodiment 1: figure 1

Embodiment 2: figure 2

Embodiment 3: figure 3

Embodiment 4: figure 4

Embodiment 5: figure 5

Embodiment 6: figure 6

Embodiment 7: figure 7

Embodiment 8: figure 8

Embodiment 9: figure 9

Embodiment 10: figure 10

Embodiment 11: figure 11

Embodiment 12: figure 12

Art Unit: 2837

Embodiment 13: figure 13

Embodiment 14: figures 14A-14C

Embodiment 15: figures 15A-15C

Embodiment 16: figures 16A-16C

Embodiment 17: figures 17A-17C

Embodiment 18: figure 18A

Embodiment 19: figure 18B

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none of the claims are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Art Unit: 2837

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Conclusion

Applicant is advised that:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention or discovery.

(b) More than one claim may be presented provided they differ substantially from each other and are not unduly multiplied.

Where, in view of the nature and scope of applicant's invention, applicant presents an unreasonable number of claims which, in view of the nature and scope of applicant's invention, are repetitious and multiplied, the net result of which is to confuse rather than to clarify, a rejection on undue multiplicity based on 35 U.S.C. 112, second paragraph may be appropriate. See MPEP 2173.05(n) and 37 CFR §1.75.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo Colon-Santana whose telephone number is (571) 272-2060. The examiner can normally be reached on Monday thru Thursday 6:30am - 5:00pm.

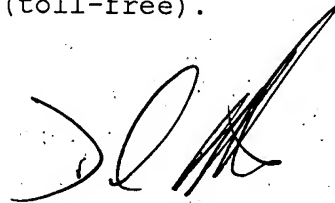
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor can be reached on (571)

Art Unit: 2837

272-2800 X.37. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ECS
May 17, 2004



DAVID MARTIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800